

WHY DO BOYS PREFER TO PLAY WITH THEIR FATHERS THAN WITH THEIR MOTHERS?

TOMOMICHI KOBAYASHI*

*Division of Environmental Policy, Faculty of Environment and Information,
Tottori University of Environmental Studies
Wakabadai 1-1-1, Tottori 689-1111, Japan
Email: t-kobaya@kankyo-u.ac.jp

Previous studies carried out in Western countries on mother-infant and father-infant interactions in play activities revealed the following tendencies. (1) Play activities between fathers and their children are physical and unusual, whereas, play between mothers and their children are conventional and moderate. (2) Boys prefer to play with their fathers, whereas, girls prefer to play with their mothers. The previous studies by the author on outdoor play interactions in Japanese families suggest that these tendencies may be an adaptation to hunter-gatherer lives. In the present study, this suggestion was investigated by examining whether (1) fathers tend to teach their sons how to fish more frequently than they teach their daughters, and (2) boys taught fishing skills by their fathers tend to have better fishing skills than other same-aged boys taught fishing skills by persons other than their fathers. The experiment was performed by obtaining information through a questionnaire from third and fifth grade students in four elementary schools. The results indicate the followings. (1) Fathers tend to teach their sons fishing more often than they tend to teach their daughters. (2) Male students mostly taught fishing by their fathers tend to gain better skills in fishing than those mostly taught fishing by persons other than their fathers.

Key words: play interaction, gender difference, fishing skill, hunter-gatherer lives

INTRODUCTION

Studies on mother-infant and father-infant interactions in play-like activities have clarified the following facts:

(1) Fathers tend to behave like playmates, while mothers tend to behave like caretakers. For example, when picking up an infant, fathers are more likely to hold infants simply to play with them, whereas mothers are more likely to hold them for caring purposes (Lamb, 1977).

(2) Fathers tend to be engaged in physical (i.e., rough and tumble type) and unusual play activities, such as tactile and limb-movement games. Whereas, mothers tend to be engaged in more conventional play activities—such as peek-a-boo and pat a cake—and moderate play activities, such as toy-mediated play, reading, and talking (Lamb, 1977; Clarke-Stewart, 1978; Clarke-Stewart, 1980; Yogman, 1981).

(3) Boys (two- and three-year olds) prefer to play with their fathers, whereas girls prefer to play with their mothers (Spelk et al., 1973; Lynn and Coss, 1974; Lamb, 1977). For example, boys tend to be in the vicinity of and approach and fuss around their fathers. In comparison, girls tend to be in the vicinity of and approach and fuss around their mothers. Ban and Lewis (1974) discovered that one year-old boys tended to look at their fathers more often than they did at their mothers.

However, in spite of these interesting facts, the authors of above reports did not inquire functional meanings of these tendencies in infant-parent interactions. Moreover, no researches on these

tendencies have been performed since then.

Kobayashi (2003) reported that all the tendencies of infant-parent interactions mentioned as above as (1)–(3) were also observed in Japanese parents and children (widely ranging between 1- and 12 years old) in a nature-rich outdoor park. The results obtained by Kobayashi are as follows:

- (1) Fathers visited the park more often only with their sons than they did with their daughters. On the other hand, mothers visited the park more often only with their daughters than they did with their sons.
- (2) Play activities most frequently observed between fathers and sons included running and throwing behaviors, such as soccer-like play and baseball-like play. On the other hand, play activities most frequently observed between mothers and daughters involved the use of toys in a sandbox and picking plants.

Kobayashi suggested that greater affinity toward fathers by boys and greater affinity toward mothers by girls (AFB & AMG), and sports-like plays between fathers and boys and conventional plays between mothers and girls (SFB & CMG), which have been observed not only in Western countries and Japan, but also in various other societies in Siberia and Africa (Stebnitsky, 1930; Rainson-Pravdin, 1949; Munroe and Munroe, 1971; Ember, 1973; Kamei, 2001), may be an adaptation to hunters-gatherer lives. It means that sports-like plays including running and throwing may have an adaptive function to master hunting-related skills for boys, and conventional plays including plays with toys in a sand box and picking plants may have gathering and housework-related skills for girls.

If Kobayashi's suggestion is correct, boys can master hunting-related skills through plays with their fathers, and girls can master gathering and housework-related skills through plays with their mothers. It is expected that such skills mastered by boys and girls are useful for the children themselves and their parents with increase of their inclusive fitness, and the natural selection promotes the behavioral tendencies such as AFB & AMG and SFB & CMG.

This study was performed to investigate Kobayashi's suggestion that AFB & AMG and SFB & CMG may be an adaptation to the hunter-gatherer lives. Therefore, the following items were examined:

- (1) Do fathers tend to teach, intentionally or otherwise, their sons how to fish more frequently than they teach their daughters?
- (2) Do boys who are taught fishing skills by their fathers tend to have better fishing skills than other same-aged boys in the same area who are taught fishing skills by persons other than their fathers?

METHODS

The experiment was performed by obtaining information through a questionnaire from 3rd grade students (8–9 years old; 324 males and 265 females) and fifth grade students (10–11 years old; 255 males and 282 females) in four elementary schools in Okayama Prefecture. In the regions where the schools in which the questionnaire was conducted were located, it is commonly seen that groups consisted of parents and children or children alone fish in rivers and ponds (Figure 1 a, and b).

The reason for selecting third grade students was as follows. Generally the skills of fishing seems difficult for second grade students and the number of 2nd students who go fishing is small. Fifth grade students were selected because it is useful to examine how the fishing-related situation of students older than third grade students is different from that of third grade students.

The questionnaire was performed in October and November and it contained the following questions.

- (1) Have you gone fishing since last year?

The following questions were asked to children who answered "yes" for (1).

- (2) Who is the person teaching you fishing the most?
- (3) Among your classmates with whom you go fishing, who is the most skilled in fishing?

(4) How often have you gone fishing recently?

(5) With whom have you gone fishing this year? Please select all the persons if you have gone fishing with two or more persons.

In each question except (3), the following alternatives were prepared: in question (1), yes and no; in question (2), father, mother, grandfather, grandmother, brother, sister, and friend; in question (4), a few times a week, a few times a month, and a few times a year; and in question (5), father, mother, grandfather, grandmother, brother, sister, male friend, and female friend. In question (3), the children were requested to write the name of their friend(s).

After distributing the questionnaires, the contents of each question were explained in a simple manner and the children were then requested to answer the questions.



Fig. 1. A father and his son (a) and children group (b) fishing in rivers and ponds in the regions where the schools in which the questionnaire was conducted were located.

RESULTS

(1) Have you gone fishing since last year?

Among the third grade students, 62% of the male students and 23% of the female students answered "yes"; on the other hand, among the fifth grade students, 61% of the male students and 17% of the female students answered "yes." The percentage of male students answering "yes" was statistically higher than that of female students answering "yes" (third grade students: $p < 0.05$ and fifth grade students: $p < 0.01$ Fisher's exact probability test).

(2) Who is the person teaching you fishing the most?

Mothers, grandmothers, and sisters were not selected by neither of the third grade students or the fifth grade students. The person whom the students selected the most was "father" in males, and "grand father" in females in the third grade students. In the fifth grade students, it was "father" in both males and females. The percentage of those selecting "father" was statistically different between the males and females students in both the third and the fifth grade students (third grade students: $p < 0.05$, and fifth grade students: $p < 0.01$ Fisher's exact probability test) (Table 1 A).

(3) Among your classmates with whom you go fishing, who is the most skilled in fishing?

Only the answers of the male students were analyzed for this question by a following reason. This question was performed to examine whether male children taught mostly fishing by their father tend to gain better skills in fishing than those taught mostly fishing by persons other than their father. However the number of female students who answered "father" as the person teaching her fishing the most was small both in the third and fifth grade students.

The analysis was performed in the following manner.

The children who were selected to answer the question were all male students, and they were

Table 1. Answers of children for four question

A. Ratio of children who selected each person for the question "Who is the person teaching you fishing the most?"

Values in parentheses show the number of males or females selecting each person / the number of all the males or females.

		Father	Grandfather	Brother	Friend
The 3rd grade students	Males	61.7% (124/201)	7.5% (15/201)	8.4% (17/201)	22.3% (45/201)
	Females	31.2% (19/61)	50.8% (31/61)	14.8% (9/61)	3.2% (2/61)
The 5th grade students	Males	55.1% (86/156)	12.8% (20/156)	10.9% (17/156)	21.1% (33/156)
	Females	35.4% (17/48)	25% (12/48)	16.7% (8/48)	22.9% (11/48)

* : $p < 0.05$, ** : $p < 0.01$, Fisher's exact probability test.

B. Ratio of children who were selected for the question "Among your classmates with whom you go fishing, who is the most skilled in fishing?"

See the text for the manner to calculate values in the table.

		Children taught by father	Children taught by the other person
The 3rd grade students	28.8% (36/125)	*	11.8% (9/76)
The 5th grade students	20.7% (18/87)		8.7% (6/69)
Total	25.5% (54/212)	**	10.3% (15/145)

* : $p < 0.05$, ** : $p < 0.01$, Fisher's exact probability test.

C. Ratio of children who selected each frequency for the question "How often have you gone fishing recently?"

See the text for the manner to calculate values in the table.

		a few times a week	a few times a month	a few times a year
The 3rd grade students	Children taught by father	31.2% (39/125)	38.4% (48/125)	30.4% (38/125)
	Children taught by the other person	15.7% (12/76)	36.8% (28/76)	47.4% (36/76)
The 5th grade students	Children taught by father	* 36.8% (32/87)	34.5% (30/87)	* 28.7% (25/87)
	Children taught by the other person	17.4% (12/69)	30.4% (21/69)	52.2% (36/69)

* : $p < 0.05$, Fisher's exact probability test.

D. Ratio of children who selected each person for the question "With whom have you gone fishing this year? Please select all the persons if you have gone fishing with two or more persons."

See text for the manner to calculate values in the table.

		Father	Grandfather	Brother	Friend
The 3rd grade students	Children taught by father	60.8% (76/125)	23.2% (29/125)	20% (25/125)	47.2% (59/125)
	Children taught by the other person	* 36.8% (28/76)	31.6% (24/76)	18.4% (14/76)	53.9% (41/76)
The 5th grade students	Children taught by father	36.8% (32/87)	18.4% (16/87)	27.6% (24/87)	73.6% (64/87)
	Children taught by the other person	31.9% (22/69)	21.7% (15/69)	34.8% (24/69)	84.1% (58/69)

* : $p < 0.05$, Fisher's exact probability test.

divided into groups (A) and (B). Group (A) comprised children who selected "father" in question (2), and group (B) comprised children who selected persons other than "father" in the same question.

Subsequently, the ratio of the total number of children in group (A) to the number of children who selected "father" in question (2) and the ratio of the total number of children in (B) to the number of children who selected persons other than "father" in question (2) were calculated.

In the case of the third grade students, group (A) had 36 children and 125 children selected "father" in question (2); therefore, ratio (A) was 28.8%. The number of children in group (B) was 9 and the number of those who selected persons other than "father" in question (2) was 76; therefore, ratio (B) was 11.8%. Ratio (A) was statistically higher than ratio (B) ($p < 0.05$ in Fisher's exact probability test) (Table 1 B).

In the case of the fifth grade students, group (A) had 18 students and 87 children selected "father" in question (2); therefore, ratio (A) was 20.7%. The number of children in group (B) was 6

and the number of children who selected persons other than “father” in question (2) was 69; therefore, ratio (B) was 8.7%. Thus, ratio (A) was statistically higher than ratio (B) ($p < 0.05$ in Fisher’s extract probability test).

From among both third and fifth grade students, group (A) had 54 children while 212 children selected “father” in question (2); therefore, ratio (A) was 25.5%. The number of children in group (B) was 15 while the number of children who selected persons other than “father” was 145; therefore, ratio (B) was 10.3%. Thus, ratio (A) was statistically higher than ratio (B) ($p < 0.05$ Fisher’s extract probability test).

(4) How often have you gone fishing recently?

Only the answers of the male students were analyzed. The analyses about children who selected “father” in question (2) and children who selected persons other than “father” in question (2) were performed separately.

In the case of the fifth grade students, the ratio of the number of children who selected “a few times a week” to the number of children who selected “father” in question (2) is significantly higher than the ratio to the number of children who selected persons other than “father” in question (2) ($p < 0.05$ in Fisher’s extract probability test). On the other hand, the ratio of children who selected “a few times a year” to the number of children who selected “father” in question (2) is significantly lower than that the ratio to the number of children who selected persons other than “father” in question (2) ($p < 0.05$ Fisher’s extract probability test) (Table 1 C).

Although a tendency similar to the fifth grade students was observed in the third grade students, no statistically significant difference was observed in the ratio of the number of children who selected “a few times a week” to the number of children between groups (A) and (B) ($p = 0.088$) and in the ratios of the number of children who selected “a few times a year” to the number of children between groups (A) and (B) ($p = 0.10$).

(5) With whom have you gone fishing this year? Please select all the persons if you have gone fishing with two or more persons?

Only the answers of the male students were analyzed. The analyses of children who selected “father” in question (2) and children who selected persons other than “father” in question (2) were performed separately.

The options of “mother”, “grandmother”, “sister”, and “female friend” were not selected by the third and fifth grade students.

In the case of the 3rd grade students, the ratio of the number of children who selected “father” in question (5) to those who selected “father” in question (2) was statistically greater than the ratio of the number of children who selected “father” in question (5) to the number of children who selected persons other than “father” in question (2) ($p < 0.05$ in Fisher’s extract probability test). The person who was mentioned the most was “father” among the children who selected “father” in question (2) and “friend” among those who selected persons other than “father” in question (2) (Table 1 D).

In the case of the fifth grade students, the person who was selected the most was “friend” among the children who selected “father” and persons other than “father” in question (2).

DISCUSSION

The present study was based on the retrospective survey. Therefore, there is a possibility that the memories of children were wrong and this was reflected in the results. However, the possibility is thought very low judging from the contents of the questions.

The results obtained in this study indicate the following parent-child interactions in elementary school students with regard to the activity of fishing: (1) the number of male students who have gone fishing is considerably greater than that of female students who have gone fishing; (2) fathers tend to

teach their sons fishing more often than they tend to teach their daughters; (3) male students who were mostly taught fishing by their fathers tend to gain better skills in fishing than those who were mostly taught fishing by persons other than their fathers.

These indications support the hypothesis that AFB & AMG and SFB & CMG are an adaptation to the hunter-gatherer lives. It is considered that males with capable hunting skills can increase inclusive fitness through an increase in sexual attractiveness to females, an increase in their social status, and healthy growth of their offspring (Nelson, 1993; Buss, 1994; Hill and Hultardo, 1996; Mithen 1996). On the other hand, it is considered that the species and ecological characteristics of animals to be hunted differ and the effective hunting manners and styles including hunting instruments also differ according to area. Therefore, for male children, learning manners and styles suited to their area seems to be of importance; learning such manners from their fathers, who have already gave birth to them as sons in their area, seems to be effective.

Many researchers have indicated that the characteristics of body morphology, behaviors, and recognition are more suitable for hunting in males than in females (Morris, 1977; Kimura, 1999). Kobayashi and Yano (2002) reported that male children memorized a greater amount of information on hunting animals than female children when they watched documentaries on hunting and housework among African hunters-gatherers. This may show the mental adaptation to hunting by male children. From the viewpoint of investment strategy adopted by fathers, it seems that fathers should prefer to teach hunting manners to their sons rather than their daughters because male children have greater adaptive characteristics for hunting than female ones. It is presumed that this strategic situation between children and parents produce AFB & AMG and SFB & CMG.

The male children who were taught fishing mostly by their fathers went fishing more often than those who were taught fishing mostly by persons other than their fathers in both the third and fifth grade. On the other hand, both the former and the latter children, when in the fifth grade, went fishing mostly with their friends. These results suggest the following. The motivation for fishing of the former children may be activated through fishing-related interactions with their fathers, and the motivation kept after the frequency of fishing with their fathers decreased in fifth grade.

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REFERENCES

- Ban, P, and Lewis, M (1974) Mothers and fathers, girls and boys: Attachment behavior in the one-year-old. *Merrill-Palmer Quarterly*, **20**: 195-204.
- Buss, DM (1994) *The Evolution of Desire*. A Division of Harper Collins Publishers, inc., New York.
- Clarke-Stewart, KA (1978) And daddy makes three: The father's impact on mother and young child. *Child Dev.*, **49**: 466-478.
- Clarke-Stewart, KA (1980) The father's contribution to children's cognitive and social development in early childhood. *In: The Father-Infant Relationship: Observational Studies in the Family Setting*, ed. By Pedersen, FA, Praeger, New York: pp. 214-256.
- Ember, C (1973) Female task assignment and the social behavior of boys. *Ethos*, **1**: 424-439.
- Hill, K, and Hultardo, M (1996) *AcheLife History*. Aldine de Gruyter, New York.
- Kamei, N (2001) Children's play of hunter-gatherer Baka. *In: The World of Coexistence between Forests and Humans*, ed. By Itikawa, M and Sato, H, Kyoto Daigaku Gakujutsu Syuppankai, Kyoto: pp. 93-139 (In Japanese).
- Kimura, D (1999) *Sex and Cognition*. The MIT Press, Cambridge, Massachusetts.
- Kobayashi, T (2003) Ethological analysis of children-parent interaction in outdoor play. *J. Hum. Ergol.* **32**: 111-116.
- Kobayashi, T, and Yano, T (2002) Gender differences in interaction for film of Pigmies' hunting-gathering activities among Japanese children and adults. *J. Hum. Ergol.*, **31**: 59-62.
- Lamb, ME (1977) The development of mother-infant and father-infant attachments in the second year of life. *Dev. Psychol.*, **13**: 637-648.

- Lynn, DB, and Cross, AR (1974) Parent preference of preschool children. *J. Marriage Fam.*, **36**: 555-559.
- Mithen, S (1996) *Prehistory of the Mind: The Cognitive Origins of Art, Religion and Science*. Thames and Hudson Ltd, London.
- Morris, D (1977) *Mannwatching*. Elsevier International Projects Ltd, Oxford.
- Munroe, RL, and Munroe, RH (1971) Effect of environmental experience on spatial ability in an East African society. *J. Soc. Psychol.*, **83**: 14-22.
- Nelson, R (1993) Searching for lost arrow: physical and spiritual ecology in the hunter's world. In: *The Biophilia Hypothesis*, ed. By Kellert, SR and Eilson, EO, Island Press, Washington, D.C.: pp201-228.
- Ranson-Pravdin, AN (1949) Play and toys of the Arctic peoples in the region of the river Ob. *Soviet Ethnography*, **3**: 34-38.
- Spelk, E, Zelazo, P, Kagan, J, and Kotelchuck, M (1973) Father interaction and separation protest. *Dev. Psychol.*, **9**: 83-90.
- Stebnitsky, SN (1930) Children of the Koryak. *Soviet Arctic*, **4**: 42-58.
- Yogman, MW (1981) Development of the father-infant relationships. In: *Theory and Research in Pediatrics*, ed. By Fitzgerald, H, Lester, B, and Yogman, MW, Plenum, New York: pp. 124-168.